

## NON-VOLATILE SEMICONDUCTOR MEMORY DEVICE

### ABSTRACT OF THE DISCLOSURE

A non-volatile semiconductor memory device includes a plurality of page buffers,  
5 each corresponding to a sense node. Voltages of a first set of sense nodes are varied  
according to states of corresponding memory cells during a first sense period, while voltages  
of a second set of sense nodes are fixed at a predetermined voltage. During the second sense  
period, voltages of the second set of sense nodes are varied according to states of  
corresponding memory cells, while voltages of the first set of sense nodes are fixed at a  
10 predetermined voltage. Using this sensing scheme, even though a sense node corresponding  
to an OFF cell is floated, a voltage of the floated sense node is not coupled down when a  
voltage of a neighboring sense node corresponding to an ON cell is lowered.